



Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger Judith U. Kim Fimothy J. Shea, Jr. Patrick E. Garrett Heidi L. Kraus Edward W. Yee Albert L. Ferro\* Donald R. Banowit Peter A. Jackman Teresa U. Medler Jeffrey S. Weaver Kendrick P. Patterson Vincent L. Capuano Eldora Elisson Floyd Thomas C. Fiala Brian J. Del Buono Virgil Lee Beaston Kimberty N. Reddick Theodore A. Wood

Elizabeth J. Haanes Joseph S. Ostroff Frank R. Cottingham Christine M. Lhulier Rae Lynn Prengaman Jane Shershenovich\* Lawrence J. Carroll\* George S. Bardmesser Daniel A. Klein\* Jason D. Eisenberg Michael D. Specht Andrea J. Kamage Tracy L. Muller\* LuAnne M. DeSantis John J. Figueroa Ann E. Summerfield Tiera S. Coston\* Aric W. Ledford\* Michael D. Specht Jessica L. Parezo Timothy A. Doyle\* Cynthia M. Bouchez Nicole D. Oretar\* Ted J. Ebersole

Registered Patent Agents • Karen R. Markowicz Nancy J. Leith Helene C. Carlson Gaby L. Longsworth Matthew J. Dowd Aaron L. Schwartz Mary B. Jung Katrina Y. Pei Quach Bryan L. Skelton Robert A. Schwartzman Teresa A. Colella
Jeffrey S. Lundgren
Victoria S. Rutherford
Eric D. Hayes
Michelle K. Holoubek
Robert H. DeSelms
Simon J. Elliott
Julie A. Heider
Mita Mukerjee
Scott M. Woodhouse
Of Counsel
Evan R. Smith
Marvin C. Guthrie
\*Admitted only in Maryland
Admitted only in Virginia
\*Practice Limited to
Frederal Agencies

March 25, 2004

WRITER'S DIRECT NUMBER: (202) 772-8560 INTERNET ADDRESS: RESMOND@SKGF.COM

Art Unit 1754

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 10/716,604; Filed: November 20, 2003

or: Method for the Preparation of Well-Defined Metal Acetamidinate-

**Based Catalysts on Solid Supports** 

Inventors:

Sita et al.

Our Ref:

1797.0540001/RWE/CJW

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Information Disclosure Statement;
- 2. Form PTO-1449 (6 sheets) and accompanying (19) references; and
- 3. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLLC. : 1100 New York Avenue, NW : Washington, DC 20005 : 202.371.2600 f 202.371.2540 : www.skgf.com

Commissioner for Patents March 25, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Robert W. Esmond Attorney for Applicants Registration No. 32,893

RWE/CJW/dab 240825\_1.DOC Enclosures



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sita et al.

Appl. No.: 10/716,604

Filed: November 20, 2003

For:

Method for the Preparation of Well-

**Defined Metal Acetamidinate-Based** 

**Catalysts on Solid Supports** 

Confirmation No.: 7178

Art Unit: 1754

Examiner: To be assigned

Atty. Docket: 1797.0540001/RWE/CJW

## **Information Disclosure Statement**

**Commissioner for Patents** 

PO Box 1450

Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. A copy of documents AL1, AM1 and AR1 to AS6 is provided.

A copy of documents AA1 to AH1 is not provided in accordance with the U.S. Patent and Trademark Office OG notice of August 5, 2003, which states "[t]he Office hereby waives the requirement under 37 C.F.R. 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003."

The Examiner is referred to the following related, co-pending patent application: U.S. Patent Application No. 10/484,210, filed January 20, 2004, inventors Sita *et al.*, listed as Document AT6. Document AT6 is the U.S. National Phase of PCT/US02/22923, submitted herewith as Document AL1. A copy of Document AT6 is not provided, as it is the same as Document AL1.

The identification of this U.S. Patent Application is not to be construed as a waiver of secrecy as to this application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicant has listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO 1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Robert W. Esmond Attorney for Applicants Registration No. 32,893

Date: March 25, 2004

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

FORM PTO-1449					ATTY, DOCKET NO.  1797.0540001/RWE/CJW  FIRST NAMED INVENTOR  Site of all				
INFORM	MATION	I DISC	LOSURE STA	<u>TEMENT</u>	Sita et al. FILING DATE November 20, 2003		ART UNIT		
				U.S. PA	TENT DOCUMENTS				
STATE !			CUMENT MBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
6113	AA1		8,935	06/07/1994	Canich et al.	02.00	005 05 100	07/30/1992	
MAR 2 5 2004	AB1	5,38	37,660	02/07/1995	Doyle et al.		•	03/01/1993	
F TRADEMARK OF	AC1	5,52	27,752	06/18/1996	Reichle et al.			03/29/1995	
MADEMA	AD1	5,64	8,438	07/15/1997	Henry et al.			04/01/1994	
	AE1	5,67	4,795	10/07/1997	Wasserman et al.			06/07/1995	
	AF1	5,68	31,908	10/28/1997	Mehra et al.			01/25/1996	
	AG1	5,91	2,202	06/15/1999	Oskam et al.			01/10/1997	
	AH1	6,57	9,998 B2	06/17/2003	Sita et al.			05/07/2001	
	Al								
	AJ		·					,	
	AK								
144				FOREIGN	PATENT DOCUMENT	s		1	
EXAMINER INITIAL	DOC! NUM!		JMENT BER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
	AL1	woo	03/008459 A1	01/30/2003	WIPO			Yes No	
	AM1	WO 01/30858 A1		05/03/2001	WIPO			Yes No	
	AN							Yes No	
	AO							Yes No	
	AP							Yes No	
			OTHER (In	cluding Auth	or, Title, Date, Pertine sm of the Double Aldol	ent Pages, et	tc.)		
	AR	1	Characteriz	copic sters," <i>J. Am.</i> b August 15,					
	AS	1	Asakura, T., et al., "Carbon-13 NMR Spectral Assignment of Five Polyolefins Determined from the Chemical Shift Calculation and the Polymerization Mechanism," <i>Macromolecule</i> 24:2334-2340, American Chemical Society (1991)						
	AT	1			"The coordination cher er Science S.A. (1994)	mistry of the	amidine ligand,"	Coord. Chem.	
EXAMINER			·			DA	TE CONSIDERED		
EXAMINER: Initia and not considere	al if refer d. Includ	ence co de copy	nsidered, wheth of this form with	er or not citation is next communicat	s in conformance with MPEP ion to Applicant.	609. Draw line	through citation if no	t in conformance	
					<del></del>				

Page 1 of 6

···		Page 2 of 6
	ATTY. DOCKET NO. 1797.0540001/RWE/CJW	APPLICATION NO. 10/716,604
FORM PTO-1449	FIRST NAMED INVENTOR	
	Sita et al.	
INFORMATION DISCLOSURE STATEMENT	FILING DATE	ART UNIT
	November 20, 2003	1754

				U.S.	PATENT DOCUMENT	S					
EXAMINER INITIAL		DOC	UMENT BER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE			
	AA										
	AB				-			· · · · · · · · · · · · · · · · · · ·			
	AC	1									
	AD	<del>                                     </del>	<del>-</del> -								
	AE	1						_			
	AF	<u> </u>									
	AG			-				-			
<del>-18</del>	AH										
	Al										
	AJ	<del> </del>									
	AK				-						
				FOREW	ON DATENT DOOMS	NEC					
EXAMINER				FOREIG	ON PATENT DOCUME	NTS	· ·	T			
INITIAL		1	CUMENT MBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION			
	AL							Yes No			
	AM		277					Yes No			
	AN							Yes No			
	AO							Yes No			
	AP							Yes No			
			OTHER	(Including A	uthor, Title, Date, Pert	inent Pages, etc.	.)	Proposition (e. )			
	AR	2	Transition-	P., and Jordan, Metal-Free Eth Chemical Soci	R.F., "Cationic Aluminum hylene Polymerization Cat ety (1997)	Alkyl Complexes In alysts," <i>J. Am. Chei</i>	ncorporating Am m. Soc. 119:812	idinate Ligands. 5-8126,			
	Davies, S.G., "Organometallics as Nucleophiles," in <i>Organotransition Metal Chemistrogranic Synthesis</i> , vol. II., Baldwin, J.E., ed., Pergamon Press, Oxford, Great Britain (1982)							Applications to op. 187-217			
	AT	2	Edelmann chemistry,	Edelmann, F.T., "N-silylated benzamidines: versatile building blocks in main group and coordination chemistry," <i>Coord. Chem. Rev.</i> 137:403-481, Elsevier Science S.A. (1994)							
EXAMINER		1				DATE	CONSIDERED				
EXAMINED: 1-	itial if raf-	ronne e	neidoradt	other or not ='t=+'	on in in conformer 115 4 45	DED 600 Des " "	and the state of	45			
and not conside	red. Inclu	ide copy	of this form y	ith next commur	on is in conformance with MF nication to Applicant.	TEF OUS. Draw line th	iough citation if no	ot in conformance			

		Page 3 of 6
ATTY. DOCKET NO. 1797.0540001/RWE/CJW	APPLICATION NO. 10/716,604	
FIRST NAMED INVENTOR		
Sita et al.		
FILING DATE	ART UNIT	
November 20, 2003	1754	

## FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT

				U.S. PA	ATENT DOCUMENTS				
EXAMINER INITIAL		DOC	UMENT	DATE	NAME	CLASS	SUB CLASS	FILING DATE	
INITIAL	AA	NOM	BER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
	AB								
	AC	-							
	AD	-							
	AE	-							
	AF	ļ							
	AG								
							,		
	AH				100.00				
	Al								
	AJ								
	AK								
			•	FOREIGN	PATENT DOCUMENTS	- 1-4			
EXAMINER INITIAL			CUMENT MBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
	AL							Yes No	
	AM							Yes No	
	AN							Yes No	
	AO					<del></del>		Yes	
	AP					,		No Yes	
	IAF		OTHER (I	ncluding Auth	or, Title, Date, Pertinent I	Pages, etc.)		No	
	Hlatky, G.G., "Heterogeneous Single-Site Catalysts for Olefin Polymerization," Chem. F 1376, American Chemical Society (2000)							Rev. 100:1347-	
	AS	3	Jayaratne, I Am. Chem.	Jayaratne, K.C., and Sita, L.R., "Stereospecific Living Ziegler–Natta Polymerization of 1-Hexene," <i>J. Am. Chem. Soc.</i> 122:958-959, American Chemical Society (2000)					
	AT	3	Classes of I Polymerizat	Jayaratne, K.C., et al., "Living Ziegler–Natta Cyclopolymerization of Nonconjugated Dienes: New Classes of Microphase-Separated Polyolefin Block Copolymers via a Tandem Polymerization/Cyclopolymerization Strategy," <i>J. Am. Chem. Soc. 122</i> :10490-10491, American Chemical Society (2000)					
EXAMINER	L	.1	I		W 11	DATE	CONSIDERED		
EXAMINER: Initi	al if refer	ence co	nsidered, whet	her or not citation i	s in conformance with MPEP 609	Draw line thro	ugh citation if no	t in conformance	
and not considere	za. Inclu	ue copy	ot this form wil	h next communica	tion to Applicant.				

232889\_2.DOC

## FORM PTO-1449

ATTY. DOCKET NO. 1797.0540001/RWE/CJW APPLICATION NO. 10/716,604 Page 4 of 6

FIRST NAMED INVENTOR

Sita et al.

INFORMATION DISCLOSURE STATEMENT

FILING DATE ART UNIT November 20, 2003 1754

				<u> </u>	ATENT DOCUMENT	<u> </u>			
EXAMINER	1		UMENT						
INITIAL		NUN	IBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
	AA								
	AB								
	AC								
	AD								
	AE	+		·					
	AF	-							
	AG	+			-	<u> </u>			
	AH	1	.,						
	Al								
	AJ	-	-			0.00			
	AK	<u> </u>							
				FORFION	L DATENT DOOLING	NITO			
EVANIALED		1		FUREIGE	N PATENT DOCUME	NIS			
EXAMINER INITIAL			CUMENT MBER	DATE	COUNTRY	CLAS	S SUB-CLASS	TRANSLATION	
	AL							Yes No	
	АМ							Yes No	
	AN			-				Yes No	
	AO							Yes No	
A10.414	AP				1.00			Yes No	
	170		OTHER (	Including Aut	hor, Title, Date, Pert	inent Pages e	itc )	140	
	1		Keaton R	l et al "Structu	ral Characterization of	Zirconium Cation	s Derived from a l	iving Ziegler-	
	AR	4	Natta Polyn	nerization Syste	m: New Insights Regard Am. Chem. Soc. 122:12	ling Propagation	and Termination F	Pathways for	
	AS	4	Mediated by Vinylcycloh	Keaton, R.J., et al., "Dramatic Enhancement of Activities for Living Ziegler–Natta Polymerizations Mediated by "Exposed" Zirconium Acetamidinate Initiators: The Isospecific Living Polymerization of Vinylcyclohexane," J. Am. Chem. Soc. 123:6197-6198, American Chemical Society (Published on Web June 1, 2001)  Kim, Y.H., et al., "α-Iminoenamido Ligands: A Novel Structure for Transition-Metal Activation,"  Organometallics 21:3082-3084, American Chemical Society (Published on Web June 18, 2002)					
	АТ	4	Kim, Y.H., e Organomet						
EXAMINER						DA	TE CONSIDERE	)	
EXAMINER: Initial and not conside	itial if refer	rence co	onsidered, whet	ther or not citation	is in conformance with MP ation to Applicant.	PEP 609. Draw line	through citation if n	ot in conformance	
				o.c. communic	Guori to Applicant.				

APPLICATION NO. 10/716,604 ATTY. DOCKET NO. 1797.0540001/RWE/CJW **FORM PTO-1449** FIRST NAMED INVENTOR Sita et al. INFORMATION DISCLOSURE STATEMENT

FILING DATE **ART UNIT** November 20, 2003 1754

Page 5 of 6

				U.S.	PATENT DOCUMENT	ΓS		
EXAMINER			UMENT					
INITIAL		NUN	BER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA							
	AB	<del>                                     </del>		-				
	AC							
	AD	<del> </del>						
	AD							
	AE	ļ	<del></del>					
	ļ		<u></u>	ļ				
	AF							
	AG	<del></del>	<del> </del>					· <del> </del> ·
	,,,							
	AH							
		ļ			-			
	AI						•	
	AJ	<u> </u>						
	_							
	AK							
		<u> </u>		FOREIG	GN PATENT DOCUME	:NTC		
EXAMINER	<u> </u>	DC	CUMENT	FOREI	GN PATENT DOCUME	INIO		
INITIAL			MBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
								Yes
	AL	5			•			No
	АМ							Yes No
	7,111							Yes
	AN							No
								Yes
	AO				3			No
	AP							Yes No
	1		OTHER	(Including A	uthor, Title, Date, Per	tinent Pages, etc.)	l	
			Koterwas,	L.A., et al., "S	tereospecific Syntheses, I	Metal Configurational	Stabilities, and	Conformational
			Analyses of	of meso-(R,S)-	and $(R,R)$ - $(\eta^5$ -C <sub>5</sub> R <sub>5</sub> )Ti(Ch	H <sub>3</sub> ) <sub>2</sub> -N,N-bis(1-phenyl	ethyl)acetamidi	nates for R = H
	AR	_	and Me," C	Organometallic	s 18:4183-4190, America	n Chemical Society (	1999)	
	AR	5						
			Neculai, A	.M., <i>et al.</i> , "Syı	nthesis of New $\beta$ -Diketimin	nato Complexes of Se	candium(III): Ur	precedented
			(Published	oi a Multicycli Lon Web Nove	c Aggregate," <i>Organomet</i> ember 22, 2001)	allics 20:5501-5503, i	American Chem	lical Society
	AS	<u>5</u>	( dbiisiica	011 1100				
		+	Okeya S	et al "Dinuci	ear platinum(II) complex b	ridged by an acatalas	cotonato(2 \ -	nion" /
		1	Organome	t. Chem. 551:	117-123, Elsevier Science	: S.A. (1998)	zeionale(s – ) a	mon, J.
	AT	<u>5</u>			,			
	'`'	=						
EXAMINER	<u> </u>		1			DATE	CONSIDERED	

**EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

and not considered. Include copy of this form with next communication to Applicant.

		Page 6 of 6
	ATTY. DOCKET NO. 1797.0540001/RWE/CJW	APPLICATION NO. 10/716,604
FORM PTO-1449	FIRST NAMED INVENTOR	
	Sita et al.	
INFORMATION DISCLOSURE STATEMENT	FILING DATE	ART UNIT
	November 20, 2003	1754

				U.S.	PATENT DOCUMENT	S					
EXAMINER INITIAL			UMENT IBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE			
	AA										
	AB										
<del></del>	AC	1		1				-			
	AD										
	AE	-									
	AF										
	AG	+		-			-	<u> </u>			
	AH	ļ									
	Al	-		1							
	AJ	-									
	AK	-		-							
				FORE	SN PATENT DOCUME	NTC					
EXAMINER				FUREI	SN PATENT DOCUME	NIS	T				
INITIAL			CUMENT MBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION			
	AL							Yes No			
	AM							Yes No			
•	AN							Yes No			
	AO	110						Yes			
	AP							Yes No			
			OTHER	(Including A	uthor, Title, Date, Perti	inent Pages, etc.	)				
	AR	6	Sita, L.R., (C₅R₅)TiM	and Babcock, le₂[NR¹C(R²)NI Chemical Soci	J.R., "Rapid Access to Din $R^3$ ] (R = H and Me; $R^2$ = M	nethylcyclopentadie e), Libraries," <i>Orgar</i>	nyltitanium(IV) Anometallics 17:5	Amidinate, 228-5230,			
Woo, H-G., et al., "Synthesis, Characterization, and Re Triphenylstannyl Derivatives of Zirconium and Hafnium Chemical Society (1992)						Reactivity of Triphe ium," Organometall	eactivity of Triphenylsilyl, Triphenylgermyl, and ," Organometallics 11:2198-2205, American				
	AT	<u>6</u>	Co-pendir	Co-pending U.S. Application No. 10/484,210, inventors Sita et al., filed January 20, 2004							
EXAMINER				*		DATE	CONSIDERED				
EXAMINER: In	itial if refe	rence c	onsidered, wh	ether or not citati	on is in conformance with MP	EP 609. Draw line thr	ough citation if no	t in conformance			
and not conside	red. Inclu	ide cop	y of this form v	vith next commu	nication to Applicant.						